



# Engineering Technician I, II, III Capital Improvement

## General Information

<b>Classification Code:</b>	TCHSPC
<b>Effective Date:</b>	July 19, 2022
<b>Pay Grade:</b>	B22-B24
<b>FLSA Status:</b>	Non-exempt

## Position Summary

The Capital Improvement Engineering Technician performs field and technical office work of a paraprofessional engineering nature. Provides paraprofessional support for field survey party, collects field data, plots field notes, and makes computations. Provides information to the public, other agencies, and utilities. Uses a variety of software to draft maps and charts; performs transportation related studies and analysis. Performs duties related to construction projects in the public right-of-way including surveying, computer drafting and design, developing plans for construction, permitting and inspection of projects.

## Classification Characteristics

The Technical Specialist is a paraprofessional classification focused on performing specialized functions and on how to carry out the operations of the process specified by higher level positions. This position has a choice as to how and when operations are carried out, but not as to what operations constitute the process and may include lead responsibilities for lower-level staff.

Engineering Technician I – this is the entry level class within the Technical Specialist classification. This level performs basic and routine supportive technical tasks. This includes entry-level design, permit intake, customer service and basic knowledge of surveying and construction principles and practices. This position is distinguished from the Engineering Technician II by the performance of more basic and/or routine technical skills. Employees at this level are not expected to perform with the same independence of direction and judgment on matters related to established procedures and guidelines as are positions allocated to the II level. Since this classification is typically used as a training class, employees may have only limited work experience.

Engineering Technician II – This is the journey level class within the Technical Specialist classification. This level is distinguished from the Engineering Technician I level by the assignment of the full range of duties assigned. This class performs some advance skills involving technical knowledge that require an understanding of established and defined department or program policies and procedures. This includes complex design, permit review, surveying and construction inspection. Duties are performed independently under general guidance from a supervisor. *Positions assigned to this level are flexibly staffed and are normally filled by advancement from the first level. When filled from the outside, they require several years of prior experience in the assigned field.*

Engineering Technician III – This is the advanced/lead level within the Technical Specialist classification. This level performs work at an advanced level and requires demonstrated competency with project design, permitting, survey and construction inspection. Duties require the application of advanced paraprofessional principles and practices with general guidance provided by the supervisor. This includes maintaining standard templates for use in Capital projects, large projects with multiple disciplines, or projects that are technically challenging. This may also include providing advice and counsel to managers, supervisors and employees. Employees at this level may provide training and orientation to assigned personnel. *Grade progression is dependent on the years of experience/expertise in position or specialization, AND degree of complexity, coordination, and visibility of projects in the community. Positions assigned to this level are flexibly staffed and are normally filled by advancement from the second level.*

## Classification Characteristics

This Technical Specialist classification series is differentiated from the Technical Analyst classification as responsibility of the Technical Analyst classification is at a broad professional level.

## Essential Duties

*The duties listed below are a typical sample; position assignments may vary.*

- 1 Designs and prepares a variety of plans for multi-phase construction projects and public infrastructure in compliance with established codes, regulations, standards, and procedures.
- 2 Produces a wide variety of constructions plans, topography maps, survey maps, earthwork calculations, etc., using 2D and/or 3D computer drafting and design when appropriate.
- 3 Inspects the construction of the infrastructure to ensure it is built per plans and specifications, to the required quality, and paid for accurately.
- 4 Processes and reviews engineering permits as it relates to the right-of-way, sediment and erosion control, and building permit review.
- 5 Participates in preparing project contract documents, construction drawing and field inspections.
- 6 Completes, analyzes and interprets paraprofessional engineering studies and documents.
- 7 Prepares engineering reports, summarizes bids, processes pay sheets.
- 8 Develops public improvement needs, scheduling, and cost estimates.
- 9 Works as a team member with other technicians, engineers and staff.
- 10 Performs other duties of a similar nature or level.

## Functional Specific Responsibilities

See Engineering Technician, Land Development for additional position description information.

## Qualifications

### Minimum Qualifications:

- Engineering Technician I: Associate degree or two-year technical certificate relevant to area of assignment and 0-2 years of experience typically in paraprofessional engineering work or an equivalent combination of education and experience to successfully perform the job.
- Engineering Technician II: Associate degree or two-year technical certificate relevant to area of assignment and 3-5 years of experience typically in paraprofessional engineering work or an equivalent combination of education and experience to successfully perform the job.
- Engineering Technician III: Associate degree or two-year technical certificate relevant to area of assignment and 5 or more years of experience typically in paraprofessional engineering work or an equivalent combination of education and experience to successfully perform the job.
- Specialized knowledge specific to area of assignment may be required.

### Licensing/Certifications:

- A valid Oregon driver's license at time of appointment.

## Qualifications

### Technology Skills:

- Computer aided design CAD software – AutoCAD Civil 3D, CADD
- Map Creation software – ESRI ArcGIS software; GIS software
- Calendar and scheduling software
- Compliance software — Accela
- Electronic mail software — Microsoft Outlook
- Internet browser software — Microsoft Internet Explorer
- Office suite software — Microsoft Office
- Presentation software — Microsoft PowerPoint
- Spreadsheet software — Microsoft Excel
- Word processing software — Microsoft Word

### Knowledge Required:

- Building and Construction — Knowledge of materials, methods, and the tools involved in the construction or repair of roads, sewers, or other infrastructure in the right of way.
- Customer and Personal Service — Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.
- Mathematics — Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.
- Engineering and Technology — Knowledge of the practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and construction of various goods and services.
- Physics — Knowledge and prediction of physical principles, laws, their interrelationships, and applications to understanding fluid, material, and atmospheric dynamics, and mechanical, structures and processes.
- Design — Knowledge of design techniques, tools, and principles involved in production of precision technical plans, drawings, and models.
- Mechanical — Knowledge of machines and tools, including their designs, uses, repair, and maintenance.
- Law and Government — Knowledge of laws, codes, precedents, government regulations, City, state, and federal standards, designs and specifications.
- Clerical — Knowledge of administrative and clerical procedures and systems such as word processing, managing files and records, stenography and transcription, designing forms, and other office procedures and terminology.
- English Language — Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.

### Skills:

- Coordination — Adjusting actions in relation to others' actions.
- Active Listening — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- Social Perceptiveness — Being aware of others' reactions and understanding why they react as they do.
- Reading Comprehension — Understanding written sentences and paragraphs in work related documents.
- Speaking & Writing — Communicating to convey information effectively by speaking and writing as appropriate for the needs of the audience.
- Critical Thinking — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- Complex Problem Solving — Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.
- Judgment and Decision Making — Considering the relative costs and benefits of potential actions to choose the most appropriate one.
- Time Management — Managing one's own time and the time of others.
- Instructing — Teaching others how to do something.
- Mathematics — Using mathematics to solve problems.

## Qualifications

- Monitoring — Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.
- Quality Control Analysis — Conducting tests and inspections of products, services, or processes to evaluate quality or performance.

### Abilities:

- Problem Sensitivity — The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- Deductive Reasoning — The ability to apply general rules to specific problems to produce answers that make sense.
- Oral Comprehension & Expression — The ability to listen to and understand information and ideas presented through spoken words and sentences and the ability to communicate information and ideas in speaking so others will understand.
- Respectful Communication — The ability to effectively assert views and fully listen to the views of others. This includes the ability to self-manage and contribute to healthy and productive workplace interactions.
- Near & Far Vision — The ability to see details at close range (within a few feet of the observer) and at a distance
- Written Comprehension & Expression — The ability to read and understand information and ideas presented in writing and to communicate information and ideas in writing so others will understand.
- Information Ordering — The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).
- Speech Clarity & Recognition — The ability to speak clearly so others can understand you and to identify and understand the speech of another person.
- Perceptual Speed — The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.
- Visualization — The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- Mathematical Reasoning — The ability to choose the right mathematical methods or formulas to solve a problem. Includes the ability to add, subtract, multiply or divide quickly and correctly.

## Physical Requirements

Key	None 0% (0 hrs.)					Seldom 1-10% (Up to 1 hrs.)					Occasionally 11-35% (Up to 3 hrs.)					Frequently 36-75% (3-6 hrs.)					Continuous 76-100% (6+ hrs./day)				
	0%	1-10%	11-35%	36-75%	76-100%	0%	1-10%	11-35%	36-75%	76-100%	0%	1-10%	11-35%	36-75%	76-100%	0%	1-10%	11-35%	36-75%	76-100%					
<b>BODY POSITIONS</b>										<b>PUSH/PULL</b>															
Standing			X			0-10 lbs.														X					
Sitting				X		11-20 lbs.		X																	
Walking – Even Surface			X			21-50 lbs.		X																	
Walking – Uneven Surface			X			51-75 lbs.	X																		
Kneeling		X				76-100 lbs.	X																		
<b>MOVEMENTS</b>										<b>ENVIRONMENTAL HAZARDS</b>															

Physical Requirements										
Bending/Stooping			X			Indoors		X		
Twisting	X					Outdoors			X	
Crawling	X					Dust				X
Squatting/Crouching	X					Fumes/Odors/Gasses	X			
Balancing			X			Chemical Agents	X			
Reach – Overhead			X			Biological Agents	X			
Reach – Forward			X			Noise – Low				X
Reach – Backward	X					Noise – Moderate		X		
Climbing – stairs	X					Noise – High	X			
Climbing - ladder	X					Low Light	X			
<b>USE OF HANDS</b>						Heat				X
Grasping – whole hand			X			Cold				X
Grasping – pinch grip			X			Restricted workspace	X			
Fine manipulation/feeling			X			Vibration – whole body	X			
Keyboarding				X		Vibration - extremity	X			
<b>LIFT/CARRY</b>						<b>JOB SPECIFIC</b>				
0-10 lbs.				X		Driving – vehicle/equipment			X	
11-20 lbs.	X					Operate foot controls	X			
21-50 lbs.	X					Seeing				
51-75 lbs.	X					Talking			X	
76-100 lbs.	X					Hearing			X	
						Extended work hours	X			

### Classification History

2012.01 Created  
 2022.07 Revisions and reformatted by HR

**I have reviewed the job description.**

**Employee: Name** \_\_\_\_\_ **Signature** \_\_\_\_\_ **Date** \_\_\_\_\_